

## Complete Summary

---

### GUIDELINE TITLE

ACR Appropriateness Criteria™ for the role of imaging in cancer of the cervix.

### BIBLIOGRAPHIC SOURCE(S)

Hricak H, Mendelson E, Bohm-Velez M, Bree R, Finberg H, Fishman EK, Laing F, Sartoris D, Thurmond A, Goldstein S. Role of imaging in cancer of the cervix. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun 1;215(Suppl):925-30. [50 references]

## COMPLETE SUMMARY CONTENT

SCOPE  
 METHODOLOGY - including Rating Scheme and Cost Analysis  
 RECOMMENDATIONS  
 EVIDENCE SUPPORTING THE RECOMMENDATIONS  
 BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS  
 QUALIFYING STATEMENTS  
 IMPLEMENTATION OF THE GUIDELINE  
 INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT  
 CATEGORIES  
 IDENTIFYING INFORMATION AND AVAILABILITY

## SCOPE

### DISEASE/CONDITION(S)

Cervical carcinoma

### GUIDELINE CATEGORY

Risk Assessment

### CLINICAL SPECIALTY

Obstetrics and Gynecology  
 Oncology  
 Radiology

### INTENDED USERS

Health Plans  
 Hospitals  
 Managed Care Organizations

Physicians  
Utilization Management

#### GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of initial radiologic examinations for cervical carcinoma.

#### TARGET POPULATION

Patients with cervical carcinoma

#### INTERVENTIONS AND PRACTICES CONSIDERED

1. Magnetic resonance imaging
2. Plain chest x-ray
3. Computed tomography
4. Pelvis ultrasound
5. Abdominal ultrasound
6. Endovaginal ultrasound
7. Nuclear scintigraphy- bone scan
8. Intravenous urogram
9. Barium enema

#### MAJOR OUTCOMES CONSIDERED

Utility of radiologic examinations in the pretreatment evaluation of cervical cancer

### METHODOLOGY

#### METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

#### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine's MEDLINE database. The developer identified and collected the major applicable articles.

#### NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

#### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Delphi Method)  
Weighting According to a Rating Scheme (Scheme Not Given)

## RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

## METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

## DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible.

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

Internal Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria and the Chair of the ACR Board of Chancellors.

### RECOMMENDATIONS

#### MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria™

Clinical Condition: Invasive Cancer of the Cervix

Variant 1: International Federation of Gynecology and Obstetrics stage Ib.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Magnetic resonance imaging	8	
Plain Chest x-ray	6	
Computed tomography (CT)	4	As spiral techniques evolve, the role of CT will be reassessed.
Pelvis Ultrasound	2	
Abdominal Ultrasound	2	
Endovaginal Ultrasound	2	
Nuclear Scintigraphy-Bone Scan	2	
Intravenous Urogram	2	
Barium Enema	2	
<u>Appropriateness Criteria Scale</u>		
1 2 3 4 5 6 7 8 9		
1=Least appropriate 9=Most appropriate		

Variant 2: International Federation of Gynecology and Obstetrics stage Ib tumor size >2 cm.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Magnetic resonance imaging	8	
Plain Chest x-ray	6	
Computed tomography (CT)	4	
Pelvis Ultrasound	2	
Abdominal Ultrasound	2	
Endovaginal Ultrasound	2	
Nuclear Scintigraphy-Bone Scan	2	
Intravenous Urogram	2	
Barium Enema	2	
<p align="center"><u>Appropriateness Criteria Scale</u></p> <p align="center">1 2 3 4 5 6 7 8 9</p> <p align="center">1=Least appropriate 9=Most appropriate</p>		

Variant 3: International Federation of Gynecology and Obstetrics stage Ib tumor size >3 cm.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Magnetic resonance imaging	8	
Plain Chest x-ray	6	
Computed tomography	4	

Pelvis Ultrasound	2	
Abdominal Ultrasound	2	
Endovaginal Ultrasound	2	
Nuclear Scintigraphy-Bone Scan	2	
Intravenous Urogram	2	
Barium Enema	2	
<p align="center"><u>Appropriateness Criteria Scale</u></p> <p align="center">1 2 3 4 5 6 7 8 9</p> <p align="center">1=Least appropriate 9=Most appropriate</p>		

Variant 4: International Federation of Gynecology and Obstetrics stage greater than Ib.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Magnetic resonance imaging	8	
Plain Chest x-ray	8	
Computed tomography	6	
Pelvis Ultrasound	2	
Abdominal Ultrasound	2	
Endovaginal Ultrasound	2	
Nuclear Scintigraphy-Bone Scan	2	
Intravenous Urogram	2	

Barium Enema	2	
<p align="center"><u>Appropriateness Criteria Scale</u></p> <p align="center">1 2 3 4 5 6 7 8 9</p> <p align="center">1=Least appropriate 9=Most appropriate</p>		

## Summary

### Intravenous Urogram

While intravenous urogram is a sensitive test in the detection of urinary obstruction, a low 2.4% incidence of urinary obstruction in stage Ib disease argues against the routine use of this test. Discontinuation of the routine use of barium enema, cystoscopy, and sigmoidoscopy has been suggested previously.

### Endosonography

Transrectal and endovaginal sonography have been proposed for the local staging of cervical cancer, but their practical value have yet to be thoroughly evaluated. Endosonography may be superior to clinical staging and computed tomography in the differentiation of stage Ib from stage IIb disease. However, endosonography is limited by operator dependence, poor soft tissue contrast, and a small field of view.

### Computed Tomography

The staging accuracy of computed tomography ranges from 32%-80%. The sensitivity for parametrial invasion ranges from 17%-100% with an average of 64%. Specificity ranges from 50%-100% with an average of 81%. There is a consensus in the literature that the value of computed tomography increases with higher stages of the disease, and that computed tomography has limited value (a positive predictive value of 58%) in the evaluation of early parametrial invasion. The positive predictive value of computed tomography for nodal involvement is 65% with a negative predictive value of 86%.

### Magnetic Resonance Imaging

The staging accuracy of magnetic resonance imaging ranges from 75%-90%. The sensitivity of magnetic resonance imaging in the evaluation of parametrial invasion is 69%, and the specificity is 93%. In five studies that compare magnetic resonance imaging and computed tomography in the evaluation of parametrial invasion, magnetic resonance imaging was superior to computed tomography. In the evaluation of nodal disease, the sensitivity and specificity of magnetic resonance imaging, 50% and 95% respectively, are similar to those of computed tomography. In the assessment of local tumor invasion, T2-weighted images are superior to contrast-enhanced T1-weighted images.

### Lymphangiography

Although lymphangiography has been routinely used in the past for the pretreatment evaluation of lymph node metastases, it has been mostly replaced, in this role by computed tomography and magnetic resonance imaging. Single studies that have compared lymphangiography and computed tomography have shown similar accuracy (72%-91% and 71%-88%, respectively) for both modalities. Computed tomography may have a slightly higher specificity than lymphangiography (88%-95% versus 59%-93%), but lymphangiography is more sensitive than computed tomography (63%-88% versus 53%-72%), especially in early stages (I-II) of disease. A meta-analysis compared the utility of lymphangiography, computed tomography and magnetic resonance imaging in patients with cervical cancer. Although summary-receiver-operator characteristics revealed no significant differences in the overall performance of lymphangiography, computed tomography, and magnetic resonance imaging, there was a trend toward better performances for magnetic resonance imaging than for lymphangiography or computed tomography.

#### CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

### EVIDENCE SUPPORTING THE RECOMMENDATIONS

#### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

### BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

#### POTENTIAL BENEFITS

Appropriate selection of radiologic exam procedures for accurate prognosis of cervical carcinoma.

#### POTENTIAL HARMS

Not stated

### QUALIFYING STATEMENTS

#### QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other

imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Living with Illness

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Hricak H, Mendelson E, Bohm-Velez M, Bree R, Finberg H, Fishman EK, Laing F, Sartoris D, Thurmond A, Goldstein S. Role of imaging in cancer of the cervix. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun 1;215(Suppl):925-30. [50 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

1996 (revised 1999)

### GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

## SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria™

## GUIDELINE COMMITTEE

ACR Appropriateness Criteria™ Committee, Expert Panel on Women's Imaging.

## COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Names of Panel Members: Hedvig Hricak, MD, PhD; Ellen Mendelson, MD; Marcela Bohm-Velez, MD; Robert Bree, MD; Harris Finberg, MD; Elliot K. Fishman, MD; Faye Laing, MD; David Sartoris, MD; Amy Thurmond, MD; Steven Goldstein, MD

## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

## GUIDELINE STATUS

This is a revision of a previously issued version (Appropriateness criteria for role of imaging in cancer of the cervix. Reston [VA]: American College of Radiology (ACR); 1996. 6 p. [ACR Appropriateness Criteria™].

An update is in progress at this time. (The ACR Appropriateness Criteria™ are reviewed after five years, if not sooner, depending upon introduction of new and highly significant scientific evidence.)

## GUIDELINE AVAILABILITY

Electronic copies: Available (in PDF format) from the [American College of Radiology Web site](#).

Print copies: Available from ACR, 1891 Preston White Drive, Reston, VA 20191; Telephone: (703) 648-8900.

## AVAILABILITY OF COMPANION DOCUMENTS

None available

## PATIENT RESOURCES

None available

## NGC STATUS

This summary was completed by ECRI on December 28, 2000. The information was verified by the guideline developer on January 25, 2001.

## COPYRIGHT STATEMENT

This NGC summary is based on the original guideline, which is subject to the guideline developer's copyright restrictions.

Appropriate instructions regarding downloading, use and reproduction of the American College of Radiology (ACR) Appropriateness Criteria™ guidelines may be found at the American College of Radiology's Web site [www.acr.org](http://www.acr.org).

© 1998-2004 National Guideline Clearinghouse

Date Modified: 11/8/2004

**FIRSTGOV**

